

I Claim:

1. A facet joint prosthesis to replace, on a vertebral body, a cephalad portion of a natural facet joint, the prosthesis comprising a component sized to be fixed to the vertebral body and including an artificial facet joint structure adapted to replace the cephalad portion of the natural facet joint after removal of the cephalad portion of the natural facet joint from the vertebral body.

2. A facet joint prosthesis to replace, on a vertebral body, a cephalad portion of a natural facet joint having a preexisting articular configuration, the prosthesis comprising a component sized to be fixed to the vertebral body and including an artificial facet joint structure adapted to replace the cephalad portion of the natural facet joint after removal of the cephalad portion of the natural facet joint from the vertebral body, the artificial facet joint structure comprising an artificial articular configuration unlike the preexisting natural articular configuration.

3. A prosthesis according to claim 1 or 2 wherein the component is sized to be fixed to the vertebral body on or near a pedicle.

4. A prosthesis according to claim 1 or 2 wherein the component is sized to be fixed to the vertebral body on or near a lamina.

5. A prosthesis according to claim 1 or 2 wherein the component is sized to be fixed to the vertebral body on or near a spinous process.

6. A prosthesis according to claim 1 or 2 wherein the artificial facet joint structure is removable from the component.

7. A prosthesis according to claim 1 or 2 wherein the artificial facet joint structure includes a bony in-growth surface.

8. A method of replacing, on a vertebral body, a

cephalad portion of a natural facet joint, the method comprising the steps of

5 removing the cephalad portion of the natural facet joint from the vertebral body, and

fixing a component to the vertebral body that includes an artificial facet joint structure adapted to replace the removed cephalad portion of the natural facet joint.

9. A method of replacing on a vertebral body a cephalad portion of a natural facet joint having a preexisting articular configuration, the method comprising the steps of

5 removing the cephalad portion of the natural facet joint from the vertebral body, and

fixing a component to the vertebral body that includes an artificial facet joint structure adapted to replace the removed cephalad portion of the natural facet joint, the
10 artificial facet joint structure including an artificial articular configuration unlike the preexisting articular configuration of the removed cephalad portion of the natural facet joint.

10. A facet joint prosthesis to replace, on a vertebral body, a caudal portion of a natural facet joint, the prosthesis comprising a component sized to be fixed to the vertebral body and including an artificial facet joint
5 structure adapted to replace the caudal portion of the natural facet joint after removal of the caudal portion of the natural facet joint from the vertebral body.

11. A facet joint prosthesis to replace, on a vertebral body, a caudal portion of a natural facet joint having a preexisting articular configuration, the prosthesis comprising a component sized to be fixed to the vertebral
5 body and including an artificial facet joint structure adapted to replace the caudal portion of the natural facet joint after removal of the caudal portion of the natural facet joint from the vertebral body, the artificial facet

10 joint structure comprising an artificial articular configuration unlike the preexisting natural articular configuration.

12. A prosthesis according to claim 10 or 11 wherein the component is sized to be fixed to the vertebral body on or near a pedicle.

13. A prosthesis according to claim 10 or 11 wherein the component is sized to be fixed to the vertebral body on or near a lamina.

14. A prosthesis according to claim 10 or 11 wherein the component is sized to be fixed to the vertebral body on or near a spinous process.

15. A prosthesis according to claim 10 or 11 wherein the artificial facet joint structure is removable from the component.

16. A prosthesis according to claim 10 or 11 wherein the artificial facet joint structure includes a bony in-growth surface.

17. A method of replacing, on a vertebral body, a caudal portion of a natural facet joint, the method comprising the steps of

5 removing the caudal portion of the natural facet joint from the vertebral body, and

fixing a component to the vertebral body that includes an artificial facet joint structure adapted to replace the removed caudal portion of the natural facet joint.

18. A method of replacing on a vertebral body a caudal portion of a natural facet joint having a preexisting articular configuration, the method comprising the steps of

5 removing the caudal portion of the natural facet joint from the vertebral body, and

fixing a component to the vertebral body that includes an artificial facet joint structure adapted to replace the removed caudal portion of the natural facet joint, the artificial facet joint structure including an artificial

10 articular configuration unlike the preexisting articular configuration of the removed caudal portion of the natural facet joint.

19. A prosthesis assembly for replacing a natural facet joint between a first vertebral body and a second vertebral body that is immediately inferior to the first vertebral body, the assembly comprising

5 a first component sized to be fixed to the first vertebral body and including a first artificial facet joint structure adapted to replace a cephalad portion of the natural facet joint on the first vertebral body after removal of the cephalad portion of the natural facet joint from the first vertebral body,

10 a second component sized to be fixed to the second vertebral body and including a second artificial facet joint structure adapted to replace the caudad portion of the natural facet joint of the second vertebral body after removal of the caudad portion of the natural facet joint from the second vertebral body,

15 the first and second artificial facet joint structures comprising an artificial facet joint.

20. A prosthesis assembly for replacing a natural facet joint between a first vertebral body and a second vertebral body that is immediately inferior to the first vertebral body, the natural facet joint having a preexisting articular configuration, the assembly comprising

5 a first component sized to be fixed to the first vertebral body and including a first artificial facet joint structure adapted to replace a cephalad portion of the natural facet joint on the first vertebral body after removal of the cephalad portion of the natural facet joint from the first vertebral body,

10 a second component sized to be fixed to the second vertebral body and including a second artificial facet joint structure adapted to replace the caudad portion of the

15 natural facet joint of the second vertebral body after
removal of the caudad portion of the natural facet joint
from the second vertebral body,

the first and second artificial facet joint structures
comprising an artificial facet joint having an artificial
20 articular configuration unlike the preexisting articular
configuration.

21. A prosthesis assembly according to claim 19 or
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5 wherein at least one of the first and second
artificial facet joint structures includes a bony in-growth
surface.

22. A method of total replacement of a natural facet
joint comprising the steps of

removing a cephalad portion of the natural facet joint
from a first vertebral body,

5 removing a caudal portion of the natural facet joint
from a second vertebral body immediately inferior to the
first vertebral body,

fixing a first component to the first vertebral body,
the first component including a first artificial facet joint
10 structure adapted to replace the cephalad portion of the
natural facet joint after its removal from the first
vertebral body,

fixing a second component to the second vertebral
body, the second component including a second artificial
15 facet joint structure adapted to replace the caudad portion
of the natural facet joint after its removal from the second
vertebral body, and

articulating the first and second artificial facet
joint structures to form an artificial facet joint.

23. A method of total replacement of a natural facet
joint having a preexisting articular configuration,
comprising the steps of

removing a cephalad portion of the natural facet joint

5 from a first vertebral body,

removing a caudal portion of the natural facet joint
from a second vertebral body immediately inferior to the
first vertebral body,

10 fixing a first component to the first vertebral body,
the first component including a first artificial facet joint
structure adapted to replace the cephalad portion of the
natural facet joint after its removal from the first
vertebral body,

15 fixing a second component to the second vertebral
body, the second component including a second artificial
facet joint structure adapted to replace the caudad portion
of the natural facet joint after its removal from the second
vertebral body, and

20 articulating the first and second artificial facet
joint structures to form an artificial facet joint having an
artificial articular configuration unlike the preexisting
articular configuration.